

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1 to 9. (Canceled).

10. (Currently Amended) A programmable controller, comprising:
a processing unit programmed to affect a switching sequence between, one of at least one input signal and at least one simulated input signal, and at least one output signal;
a display screen including a menu-assisted user interface;
an operator unit including a button, the button capable of being switched to an active mode using a programmable function;
at least one signal input terminal configured to receive the at least one input signal;
at least one signal output terminal separate from the input terminal; and
a housing, the processing unit, the display screen, the operator unit, the at least one signal input terminal and the at least one signal output terminal being disposed in the housing;
wherein a switching function of the controller programmable in the programmed switching sequence according to predetermined functions using the menu-assisted user interface, and wherein an operation of the button in the active mode is configured to generate the at least one simulated input signal and to affect the switching sequence of the switching function between the at least one simulated input signal and the at least one output signal.

Claims 11 to 12. (Canceled).

13. (Previously Presented) The controller as recited in claim 10 wherein the switching function can be interrupted by operation of the button in the active mode.
14. (Previously Presented) The controller as recited in claim 10 wherein the operation of the button is performable at any point of the programmable switching function.

15. (Previously Presented) The controller as recited in claim 10 further comprising a second button capable of affecting the switching function.

16. (Previously Presented) The controller as recited in claim 10 further comprising a second button and wherein the second button is capable of being switched to an active mode.

17. (Previously Presented) The controller as recited in claim 10 wherein the display screen is capable of displaying an instruction to operate the active button.

18. (Previously Presented) The controller as recited in claim 10 wherein the display screen is capable of displaying an instruction to operate the active button and wherein the instruction to operate the active button is accompanied by an acoustic signal.

19. (Previously Presented) The controller according to claim 10, wherein the switching function of the controller is arranged to switch between input voltages applied to the at least one signal input terminal and the at least one signal output terminal.

20. (Currently Amended) A programmable controller, comprising:
a processing unit programmed to affect a switching sequence between, one of at least one input signal and at least one simulated input signal, and at least one output signal;
a display screen;
an operator unit including a button switchable to an active button in accordance with a programmable function;
at least one signal input terminal configured to receive the at least one input signal;
at least one signal output terminal separate from the input terminal;
a common housing, the processing unit, the display screen, the operator unit, the at least one signal input terminal and the at least one signal output terminal accommodated in the common housing; and
an arrangement configured to program switching functions on the basis of predetermined function in accordance with a menu-assisted user interface on the display screen;
wherein the switching sequence of the switching function is dependent on operation of the button in the active mode to affect the switching sequence of the switching function

between the at least one simulated input signal, generated by operation of the button in the active mode, and the at least one output signal.

21. (Currently Amended) A programmable controller, comprising:

a processing means programmed to affect a switching sequence between, one of at least one input signal and at least one simulated input signal, and at least one output signal;

a display means;

operating means including a button switchable to an active button in accordance with a programmable function;

at least one signal input terminal configured to receive the at least one input signal;

at least one signal output terminal separate from the input terminal;

a common housing, the processing means, the display means, the operating means, the at least one signal input terminal and the at least one signal output terminal accommodated in the common housing; and

means for programming switching functions on the basis of a predetermined function in accordance with a menu-assisted user interface on the display means;

wherein the switching sequence of the switching function is dependent on operation of the button in the active mode to affect the switching sequence of the switching function between the at least one simulated input signal, generated by operation of the button in the active mode, and the at least one output signal.

22. (Currently Amended) A method for directing current by a programmable controller including a processing unit, a display screen, at least one signal input terminal, at least one signal output terminal separate from the input terminal, and a common housing, the processing unit, the display screen, the signal input terminal and the signal output terminal accommodated in the common housing, and an arrangement configured to program switching functions on the basis of a predetermined function in accordance with a menu-assisted user interface including a button on the display screen, a sequence of a switching function dependent on operation of the button, comprising the steps of:

entering a program into the processing unit including switching functions configured to control current flow between the at least one input terminal and the at least one output terminal; and

operating the button in an active mode so as to generate at least one simulated input signal and so as to affect the switching sequence of the switching function between the at least one simulated input signal and the at least one output signal.

Claim 23. (Canceled).